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1

## SEQUENCE LISTING

&lt;110&gt; BASF Aktiengesellschaft

5 &lt;120&gt; A process for preparing ketocarotenoids by cultivation of genetically modified organisms

&lt;130&gt; AE 20020904

10 &lt;160&gt; 12

&lt;170&gt; PatentIn version 3.1

15 &lt;210&gt; 1

&lt;211&gt; 789

20 &lt;212&gt; DNA

&lt;213&gt; Nostoc sp. PCC73102

&lt;220&gt;

25 &lt;221&gt; CDS

&lt;222&gt; (1)...(789)

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80	tcc	aac	agg	ata	ttt	ctt	gaa	gaa	aca	tca	ctc	gta	gct	cgt	cct	ggc	1029
	Ser	Asn	Arg	Ile	Phe	Leu	Glu	Glu	Thr	Ser	Leu	Val	Ala	Arg	Pro	Gly	
						295				300						305	

ttg cgt ata gat gat att caa gaa cga atg gtg gct cgt tta aac cat	Leu Arg Ile Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu Asn His	1077
310	315	320
5 ttg ggg ata aaa gtg aag agc att gaa gaa gat gaa cat tgt cta ata	Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys Leu Ile	1125
325	330	335
10 cca atg ggt ggt cca ctt cca gta tta cct cag aga gtc gtt gga atc	Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val Gly Ile	1173
340	345	350
15 ggt ggt aca gct ggc atg gtt cat cca tcc acc ggt tat atg gtg gca	Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met Val Ala	1221
355	360	365
20 agg aca cta gct gcg gct cct gtt gtt gcc aat gcc ata att caa tac	Arg Thr Leu Ala Ala Pro Val Val Ala Asn Ala Ile Ile Gln Tyr	1269
375	380	385
25 ctc ggt tct gaa aga agt cat tcg ggt aat gaa tta tcc aca gct gtt	Leu Gly Ser Glu Arg Ser His Ser Gly Asn Glu Leu Ser Thr Ala Val	1317
390	395	400
30 tgg aaa gat ttg tgg cct ata gag agg aga cgt caa aga gag ttc ttc	Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu Phe Phe	1365
405	410	415
35 tgc ttc ggt atg gat att ctt ctg aag ctt gat tta cct gct aca aga	Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala Thr Arg	1413
420	425	430
40 agg ttc ttt gat gca ttc ttt gac tta gaa cct cgt tat tgg cat ggc	Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp His Gly	1461
435	440	445
45 ttc tta tcg tct cga ttg ttt cta cct gaa ctc ata gtt ttt ggg ctg	Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Ile Val Phe Gly Leu	1509
455	460	465
50 tct cta ttc tct cat gct tca aat act tct aga ttt gag ata atg aca	Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Phe Glu Ile Met Thr	1557
470	475	480
55 aag gga act gtt cca tta gta aat atg atc aac aat ttg tta cag gat	Lys Gly Thr Val Pro Leu Val Asn Met Ile Asn Asn Leu Leu Gln Asp	1605
485	490	495
50 aaa gaa tga atccgagtaa ttccggatct tgtccaatct cgtgcc		1650
500		
55 <210> 8		
55 <211> 500		
60 <212> PRT		
60 <213> Lycopersicon esculentum		
65 <400> 8		
Met Asp Thr Leu Leu Lys Thr Pro Asn Asn Leu Glu Phe Leu Asn Pro	1 5 10 15	

His His Gly Phe Ala Val Lys Ala Ser Thr Phe Arg Ser Glu Lys His  
 20 25 30  
 5

His Asn Phe Gly Ser Arg Lys Phe Cys Glu Thr Leu Gly Arg Ser Val  
 35 40 45  
 10

Cys Val Lys Gly Ser Ser Ser Ala Leu Leu Glu Leu Val Pro Glu Thr  
 50 55 60

15 Lys Lys Glu Asn Leu Asp Phe Glu Leu Pro Met Tyr Asp Pro Ser Lys  
 65 70 75 80

20 Gly Val Val Val Asp Leu Ala Val Val Gly Gly Gly Pro Ala Gly Leu  
 85 90 95

Ala Val Ala Gln Gln Val Ser Glu Ala Gly Leu Ser Val Cys Ser Ile  
 100 105 110  
 25

Asp Pro Asn Pro Lys Leu Ile Trp Pro Asn Asn Tyr Gly Val Trp Val  
 115 120 125

30 Asp Glu Phe Glu Ala Met Asp Leu Leu Asp Cys Leu Asp Ala Thr Trp  
 130 135 140

35 Ser Gly Ala Ala Val Tyr Ile Asp Asp Asn Thr Ala Lys Asp Leu His  
 145 150 155 160

40 Arg Pro Tyr Gly Arg Val Asn Arg Lys Gln Leu Lys Ser Lys Met Met  
 165 170 175

45 Gln Lys Cys Ile Met Asn Gly Val Lys Phe His Gln Ala Lys Val Ile  
 180 185 190

Lys Val Ile His Glu Glu Ser Lys Ser Met Leu Ile Cys Asn Asp Gly  
 195 200 205

50 Ile Thr Ile Gln Ala Thr Val Val Leu Asp Ala Thr Gly Phe Ser Arg  
 210 215 220

55 Ser Leu Val Gln Tyr Asp Lys Pro Tyr Asn Pro Gly Tyr Gln Val Ala  
 225 230 235 240

60 Tyr Gly Ile Leu Ala Glu Val Glu Glu His Pro Phe Asp Val Asn Lys  
 245 250 255

Met Val Phe Met Asp Trp Arg Asp Ser His Leu Lys Asn Asn Thr Asp  
 260 265 270  
 65

Leu Lys Glu Arg Asn Ser Arg Ile Pro Thr Phe Leu Tyr Ala Met Pro

	275	280	285
5	Phe Ser Ser Asn Arg Ile Phe Leu Glu Glu Thr Ser Leu Val Ala Arg 290 295 300		
10	Pro Gly Leu Arg Ile Asp Asp Ile Gln Glu Arg Met Val Ala Arg Leu 305 310 315 320		
15	Asn His Leu Gly Ile Lys Val Lys Ser Ile Glu Glu Asp Glu His Cys 325 330 335		
20	Leu Ile Pro Met Gly Gly Pro Leu Pro Val Leu Pro Gln Arg Val Val 340 345 350		
25	Gly Ile Gly Gly Thr Ala Gly Met Val His Pro Ser Thr Gly Tyr Met 355 360 365		
30	Val Ala Arg Thr Leu Ala Ala Ala Pro Val Val Ala Asn Ala Ile Ile 370 375 380		
35	Gln Tyr Leu Gly Ser Glu Arg Ser His Ser Gly Asn Glu Leu Ser Thr 385 390 395 400		
40	Ala Val Trp Lys Asp Leu Trp Pro Ile Glu Arg Arg Arg Gln Arg Glu 405 410 415		
45	Phe Phe Cys Phe Gly Met Asp Ile Leu Leu Lys Leu Asp Leu Pro Ala 420 425 430		
50	Thr Arg Arg Phe Phe Asp Ala Phe Phe Asp Leu Glu Pro Arg Tyr Trp 435 440 445		
55	His Gly Phe Leu Ser Ser Arg Leu Phe Leu Pro Glu Leu Ile Val Phe 450 455 460		
60	Gly Leu Ser Leu Phe Ser His Ala Ser Asn Thr Ser Arg Phe Glu Ile 465 470 475 480		
65	Met Thr Lys Gly Thr Val Pro Leu Val Asn Met Ile Asn Asn Leu Leu 485 490 495		
	Gln Asp Lys Glu 500		
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	<211> 22		
	<212> DNA		
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